

Episode: Fire in the Land of the Longleaf Pine

EXPLORING NORTH CAROLINA

Life in the Hot Seat



STANDARD COURSE OF STUDY CORRELATIONS:

Biology, Goal 4: The learner will develop an understanding of the unity and diversity of life.

4.03 Assess, describe and explain adaptations affecting survival and reproductive success.

Biology, Goal 5: The learner will develop an understanding of the ecological relationships among organisms.

5.01 Investigate and analyze interrelationships among organisms, populations, communities and ecosystems.

5.03 Assess human population and its impact on local ecosystems and global environments.

MATERIALS

- 🔥 Photos of longleaf pine forests on fire or ravaged by fire. For a nice sequence of before and after photos, visit http://www.learnnc.org/lp/editions/cede_longleaf/496.
- 🔥 Student assignment sheets
- 🔥 Posterboard (or 11"x17" paper for mini-poster)
- 🔥 Colored markers
- 🔥 Magazines for cutting out pictures/photos of wildlife and plants related to longleaf pine ecosystems

PREPARATION

Fact sheets on many species found in longleaf pine ecosystems can be downloaded from the N.C. Museum of Natural Sciences' Nature Notebook Web site, <http://www.natural-sciences.org/funstuff/notebook/index.html> and the N.C. Wildlife Resources Commission's North Carolina Wildlife Profiles Web page, http://www.ncwildlife.org/pg10_outdoorKids/pg10d_8.htm. Profiled species include fox squirrel, black bear, Carolina anole and wild turkey.

INTRODUCTION TO LESSON: Students will use what they learn about the fire adaptations of the longleaf pine forest to produce an "autobiography" of a longleaf pine and create a poster that illustrates its life cycle and role in the ecosystem.

BACKGROUND FOR TEACHER: All necessary information for main activity is provided in the video. *Additional Resources* provides support material.

engage ➤ Show a photo of a charred longleaf pine forest. Ask students what they think happened and if fire is ever a good thing. Tell them they will learn about how fire is necessary for the survival of some forests and then create an "autobiography" of a longleaf pine." **Show Chapters 1 and 3 of the video.**

explore ➤ Divide students into groups and hand out assignment sheets. Tell them they are to produce an illustrated "autobiography" of a longleaf pine in poster form. Using first person point-of-view, the group should tell the story of the tree from seed stage to grass stage to mature tree. Encourage them to be creative in their approach—the poster might look like a family album, excerpts from a diary, or even an obituary.

explain ➤ Have students present their posters to the rest of the class.

elaborate ➤ Ask students to choose one of the following activities to further explore fire-adapted ecosystems.

- Produce an autobiography of another plant or animal of the longleaf pine ecosystem, e.g., wiregrass, red-cockaded woodpecker, turkey oak, Venus flytrap or pitcher plant.
- Investigate other fire-adapted ecosystems, such as Yellowstone National Park, and describe your findings in written or visual format.
- Investigate this question: Are all forests fire-adapted? Describe your findings in written or visual format.

Or choose an activity from the Longleaf Alliance (see *Additional Resources*).

evaluate ➤ Use the rubric to assess the posters.

For a follow-along viewing guide for students, see Viewing Guide 2.

Longleaf pines photograph courtesy of Larry Earley.

Arrange a field trip to Weymouth **Woods Sandhills Nature Preserve** (<http://www.ncparks.gov/Visit/parks/wewo/main.php>) or **Carolina Beach State Park** (<http://www.ncparks.gov/Visit/parks/cabe/ecology.php>).

North Carolina Wild Places: A Closer Look. 1993. N.C. Wildlife Resources Commission: Division of Conservation Education. Raleigh, N.C. Chapter 5: Sandhills Longleaf Pine Forest and Longleaf Pine Savannah and Pocosin.

"Nature's Ways: Natural History Essays from Wildlife in North Carolina." Lawrence S. Earley. (Available for purchase from N.C. Wildlife Resources Commission, <http://www.ncwildlife.org>, 1-866-WILDSHOP)

- Longleaf Alliance** • http://www.auburn.edu/academic/forestry_wildlife/longleafalliance/
• Click on “Information for educators” and then “Teacher/kid’s guide” to find some great activities.

The Nature Conservancy's Global Fire Initiative • <http://www.tncfire.org/> • Describes ways to combat fire-related biodiversity threats due to altered fire regimes.



This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

Assignment

Autobiography of a Longleaf Pine



In this assignment, you will produce an “autobiography” of a longleaf pine tree. Imagine that you are a longleaf pine living in a forest in southeastern North Carolina. Tell the world about your life from “baby” (seed) to “child” (grass stage) to “adult” (mature tree). In your autobiography, be sure to describe the world you live in:

- 🌲 How do you get what you need to survive?
- 🌲 Who are your neighbors?
- 🌲 What kinds of events happen in your forest?
- 🌲 In what ways have you survived hard times?

Present your autobiography as a poster. The poster might look like a family album, excerpts from a diary, or even an obituary.

Use your creativity—but make sure your facts are accurate!

REQUIRED ELEMENTS:

- 🌲 Poster
- 🌲 Written descriptions of life cycle and longleaf pine ecosystem (The story must include an encounter with fire and an explanation of how the tree is adapted to it.)
- 🌲 Pictures (minimum of three)
- 🌲 List of sources used